College | Physical Sciences

UCLA Physics & Astronomy

Colloquium

Thursday, November 19th, 2026 at 4 p.m.
Physics & Astronomy Building (PAB) 1-434

Wendy Freedman

(The University of Chicago)

Is the Hubble Tension Signaling New Physics Beyond the Standard Cosmological Model?

Local measurements of Ho based on Cepheids continue to yield values larger than those inferred from measurements of the cosmic microwave background (CMB). If this tension is real, it implies that there is fundamental missing physics from our standard (Lambda Cold Dark Matter, LCDM) model of cosmology. Resolving whether this discrepancy reflects new physics, new astrophysics, or systematic effects requires careful attention to the measurement of distances to nearby galaxies that determine the local value of Ho. I will describe results using both the Hubble and James Webb Space Telescopes, for a program designed to improve measurements of the Hubble constant using three independent high-precision methods: Cepheids, the tip of the red giant branch, and carbon stars, applied to galaxies hosting Type Ia supernovae

Hosted by Seth Putterman

Refreshments at 3:30 p.m. on the 3rd floor patio